

**REMARKS**

This is intended as a full, complete, and timely response to the Office Action dated December 3, 2003, having a shortened statutory period for response set to expire on March 3, 2004. Please reconsider the claims pending in the application for reasons discussed below.

In the specification, the paragraphs 0036, 0037 and 0040 have been amended to address typographical errors. Applicants submit that no new matter has been introduced via the amendments, and as such, entry and consideration is respectfully requested.

Claims 1 - 22 remain pending in the application and are shown above. Claims 3 and 12 have been cancelled, and claims 1, 10 and 11 have been amended. However, Applicants submit that the claim amendments do not introduce any new matter, and as such, reconsideration of these claims is respectfully requested for the reasons presented below.

Claims 1 - 22 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim to subject matter which the application regards as the invention. The Examiner takes the position that Applicants' recitation of the term "broadband" with respect to the impulse applied to the substrate is indefinite. Applicants traverse the rejection and respectfully submit that use of the term "broadband" is definite under the requirements of §112. More particularly, Applicants submit that the recited "broadband" impulse is defined and/or described sufficiently in the specification to convey the meaning of the phrase to one of ordinary skill in the art. Further, Applicants submit that the use of the term broadband is not counter to the generally accepted definition of the term. The Examiner has cited a dictionary definition that relates the term broadband to electromagnetic impulses, i.e., broadband is an adjective that modifies the term electromagnetic and indicates that the electromagnetic pulses have a broad or wide frequency spectrum. Applicants note that the term broadband applies similarly to the claimed impulses, i.e., each of the impulses of the invention include a broad or wide frequency spectrum. Thus, broadband describes the frequency spectrum of an impulse, and the impulse may be any type of impulse. Reconsideration of the rejection is respectfully requested.

## PATENT

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Claims 1, 2, 4 – 7, 10 – 11 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Elwyn* (U.S. Patent No. 5,849,135) in view of *Tran* (U.S. Patent No. 5,766,369). However, the Examiner has indicated that claims 3, 8, 9, and 12 – 15 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this office action, and to include all of the limitations of the base claim and any intervening claims. Applicants have amended independent claims 1 and 10 to include the limitations of allowable claims 3 and 12. As such, Applicants respectfully submit that independent claims 1 and 10, along with all claims depending therefrom, are in condition for allowance.

Additionally, the Examiner indicated that claims 17 - 22 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this office action. Applicants submit that the §112 rejections have been addressed above, and as such, allowance of claims 17 - 22 is respectfully requested.

In conclusion, Applicants submit that the references cited by the Examiner, alone or in combination, do not each, show, or suggest the invention as claimed. Further, Applicants submit that the secondary references made of record are noted. However, it is believed that the secondary references are no more pertinent to the Applicant's disclosure than the primary references cited in the office action. Therefore, Applicant believes that a detailed discussion of the secondary references is not necessary for a full and complete response to this office action.

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Having addressed all issues set out in the office action, Applicant respectfully submits that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



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